

HOLOTYPE: PERU, Lachay, *circa* 80 km. N. W. Lima, VII-23-1968, costal loma, under dry cow dung, L. and C. W. O'Brien.

Body length: 4.2 mm. Male.

ALLOTYPE: Same data.

Body length: 5.2 mm. Female.

PARATYPES: Same data (904 specimens); Same data, collector P. Aguilar F. (112); 2 km. south Lachay, *circa* 78 km. N. W. Lima, VII-23-1968, cactus area, under stones, L. and C. W. O'Brien (2); 12 miles S. E. of Camana, S. W. Peru, IV-3-1951, E. S. Ross, stones, coastal loma (3); 40 miles S. of Nasca, Peru, IV-1-1951, E. S. Ross, coastal loma (1).

I wish to gratefully acknowledge the invaluable assistance of Dr. Pedro Aguilar, without whose help it would have been impossible to succeed in my search for *Gerstaeckeria* in Peru in the short time available. I should also like to thank Dr. Ross Arnett of Purdue University for his assistance with the photographs in this paper.

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The Genus *Pandeleteinus* Champion with the Description of a New Species from Mexico (Curculionidae, Tanymecini)¹

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HISTORY

When Schaeffer (1908, p. 216) described *Pandeleteius submetallicus* he stated quite frankly that it looked "somewhat strange" in *Pandeleteius*. Champion (1911, p. 206) described the genus *Pandeleteinus* for *submetallicus* Schaeffer and until 1959 it remained the only species assigned to the genus. At the same time that he removed *submetallicus* from *Pandeleteius*, Champion noted (1911, p. 186) that *Pandeleteius ovipennis* Schaeffer also differed from his concept of

¹This is the fifth paper in a series on the Tanymecini.

Pandeleiteius, and, indeed, on p. 175 of the same volume, Sharp had already removed *ovipennis* to his new genus *Isodacrys*.

Shortly thereafter Pierce (1913, p. 402) stated that, "The available characters do not seem to the writer to warrant making three genera out of *Pandeleiteius* for our North American species, as suggested by Champion". Pierce then synonymized *Pandeleiteinus* but let *Isodacrys* stand (p. 401).

Van Emden (1936, p. 224, note 5 [in German], and 1944, p. 572, note 61 [same note in English]) described the actions of Champion and Pierce and remarked that *Pandeleiteius submetallicus* would come to *Hadromeropsis* or *Pandeleiteius* in his key, depending on whether greater importance was attributed to the contiguous fore coxae or to the enlarged legs. He himself expressed *no opinion* on the taxonomy saying he had not seen *submetallicus*.

Voss (1954, pp. 227, 228, 232) removed *submetallicus* from *Pandeleiteius* to a subgenus of *Hadromeropsis* interpreting Van Emden (l. c.) as showing that the species must be transferred to the genus *Hadromeropsis* on the grounds of contiguous fore coxae. Voss, too, had not seen *submetallicus*.

In 1959, I redefined the genus *Pandeleiteinus* (1959, pp. 364-382) and described three additional species. Unfortunately, I had not seen Voss' 1954 paper before hand. Upon reviewing my paper, Voss (in litt.) suggested that his treatment of *Pandeleiteinus* should be changed.

Like previous workers I relied heavily upon the narrowly separated fore coxae and scarcely enlarged fore legs to justify the genus. Now a much more satisfactory and exclusive character has been found which strengthens the generic definition.

GENERIC CHARACTERISTICS

The characters of the anterior portion of abdominal ventrites 3, 4, and 5 are valuable on a generic and sometimes a specific level in Tanymecini. In *Pandeleiteinus* this region is modified as follows: ranging from slightly and gradually depressed to abrupt trough-like; never carinate on the edge; never completely reaching the sides; weakest and usually glabrous on ventrite 3, progressively stronger and always glabrous on ventrites 4 and 5. Within the genus the modification is least developed in *submetallicus* and *elytroplanatus* Howden where it is a slight, arcuate depression well removed from the sides; in the other three species, *lucidillus* Howden, *magdalenensis* Howden, and *subcancer* n. sp., the modification is much stronger but the extreme side margins suddenly become flat and squamose. The modifications are similar in both sexes.

The genus *Pandeleiteius*, some of whose species are perhaps most apt to be confused with *Pandeleiteinus*, has the anterior portion of ventrites 3, 4, and 5 usually flat and unmodified, rarely with a partly glabrous and obsolete arcuate depression.² *Hadromeropsis* likewise has no modification of this region but like *Pandeleiteius* may have the posterior edges of ventrites 2, 3, and 4 abruptly

²*Pandeleiteius subtropicus* Fall, in which the abdominal modification is stronger than in *Pandeleiteinus*, does not belong to the genus *Pandeleiteius* but to a common West Indian genus. See "Tanymecini of the West Indies", Howden, in press.

modified. The genus *Isodrusus* has the anterior modification stronger than in *Pandeleteinus*, and the genus *Isodacrys* has the modification ranging from very weak to more strongly developed than in *Pandeleteinus*.

Thus the genus *Pandeleteinus* can always be recognized by the form of the anterior portion of ventrites 3, 4, and 5, in combination with its scarcely enlarged fore legs; narrowly separated fore coxae; its slender, arcuate aedeagus; and its broad beak with parallel and vertical sides.

The distribution of the genus is shown in the map.

KEY TO THE SPECIES OF PANDELETEINUS

1. Ocular vibrissae absent or vestigial, i.e., reduced to 1 to 3 hairs which end well before the eyes. Fore tibiae usually non-dentate 2
 Ocular vibrissae well-developed, i.e., consisting of a cluster of 3 or more setae of various lengths, some of which reach eye or nearly so. Fore tibiae with distinct teeth on inner edge 3
2. Thorax distinctly longer than broad. Color cinereus with darker markings. Mexico south of the Tropic of Cancer **subcancer** n. sp.
 Thorax as broad or broader than long. Color metallic green, gold, or blue, or immaculate or nearly immaculate tan. Southwestern United States **submetallicus** (Schaeffer)
3. Elytra of both sexes two and a half to three times as long as thorax. Dorsal surface of elytra in lateral profile flat, elytra of about equal thickness behind humeri. Setae of dorsal surface decumbent, minute, and inconspicuous. Elytra without oblique fasciae. Western Texas, New Mexico, southeastern Arizona **elytroplanatus** Howden
 Elytra of female slightly more than twice as long as thorax; elytra of male less than twice as long as thorax. Dorsal surface of elytra in lateral profile arcuate, elytra much thicker apically than behind humeri. Setae of dorsal surface recurved and of moderate size. Elytra with oblique fasciae which are not always prominent 4
4. Mature color maculate brown. Margins of elytra gently sinuous, constricted at base of third abdominal segment. Middle coxae separated by same distance as fore coxae. Baja California **magdalenensis** Howden
 Mature color maculate piceous. Margins of elytra nearly straight, only slightly indented at base of third abdominal segment. Middle coxae slightly more widely separated than fore coxae. Southern Arizona, western Sonora, east-central Baja California **lucidillus** Howden

Pandeleteinus subcancer n. sp.

Figures 1, 2, 3

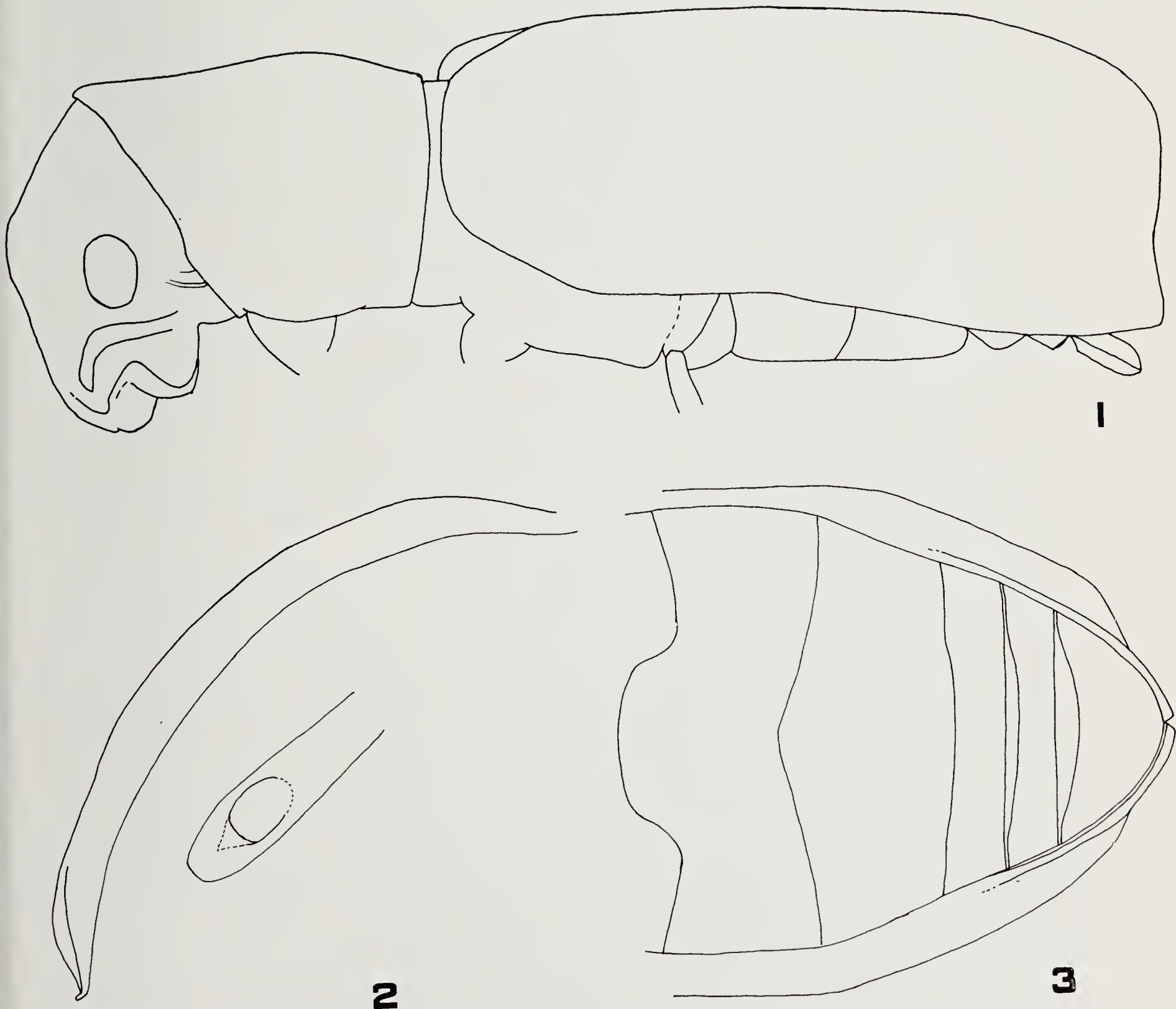
Holotype, male, length 3.4 mm., width 1.3 mm. Some small patches of scales abraded, missing tarsal claw on right fore leg, and abdomen slightly dislocated. Covered with pale cinereus scales; disc of elytra with some mottling and a darker, indistinct "V" on apical third. Scales contiguous, finely granular; scales of head and prothorax margined, often pustulate; apical two or three rows of scales simpler; scales of elytra margined posteriorly, becoming pustulate towards apex, those of summit of declivity strongly convex, shiny, circular, with weak margins. Setae of dorsal surface inconspicuous, about as long as one scale, slightly arched, their tips touching the surface. Setae of frons and beak to interantennal line conspicuous, longer, strongly arched, their tips touching the surface; setae apicad of interantennal line rapidly becoming erect towards apex and median line.

In profile head flat to frontal prominence which is gently rounded and continuous with flat beak; eye approximately one-fourth closer to ventral surface than to dorsal surface. Beak very slightly narrower than head between eyes, sides parallel, apparently quadrate but actually approximately 1.3 times wider than long. Median line finely impressed from between middle

of eyes to interantennal line which is unmarked. Apical emargination approximately right-angled, occupying approximately one-half of apical margin; a row of seven vibrissae each side of epistoma. Epistoma with median indentation. Scrobe obtusely, gently angled; deep throughout to ventral surface. Antenna short, club as long as eye. Eye subelliptical, nearly evenly convex.

Prothorax 0.86 times as wide as long; slightly, gently convex dorsally and laterally between the basal and apical constrictions; apex very slightly wider than base; widest at middle. Ocular vibrissae represented by a single long vibrissa.

Elytra across humeri 1.4 times wider than apex of thorax, 1.1 times wider than thorax at its widest. Elytra 2.26 times longer than thorax. Elytra with sides very slightly divergent to middle, thence gradually convergent, rounded to apex. Interval 5 slightly produced at summit of declivity, coalescing with intervals 4 and 6 well below summit, the junction not visible from dorsal view. Elytra in profile with dorsum weakly arcuate; declivity vertical, its



FIGURES. 1-3, *Pandeleteinus subcancer* n. sp. 1, profile of female; 2, lateral view of aedeagus and dorsal view of apex of aedeagus; 3, ventral view of abdomen of female.

summit rounded and directly above apex, obsoletely concave. Sutural interval at summit of declivity enlarged, covered with modified scales as noted above and with additional setae. Strial punctures moderate, separated by a little more than their own diameter. Elytral intervals approximately equal, slightly convex, set with a single row of setae.

Fore leg scarcely enlarged; fore femur exactly as long as hind femur, 1.2 times wider than hind femur. Fore tibia with neither teeth nor denticles on inner edge.

Fore coxae very close, separated by less than the narrowest width of the scape; middle coxae separated by a distance about equal to the narrowest width of the scape. Margins of elytra in ventral view (Fig. 3) scarcely constricted at ventrite 3. Ventrites 1 and 2 flat; ventrite 3 with its posterior edge gently deflected, thence abruptly perpendicular and glabrous for a brief distance; ventrite 4 transversely convex, its posterior edge more broadly perpendicular, much higher medially; ventrite 5 convex with sides flattened anteriorly, its apex broadly truncate and not margined. Modification of anterior portion of ventrites 3, 4, and 5 abrupt, deep, glabrous, almost reaching sides, very narrow on ventrite 3, wider medially on ventrite 4, and much wider medially on ventrite 5.

Aedeagus (Fig. 2) not as perfectly cylindrical as in other *Pandeleiteinus*, slightly flattened, the central third in dorsal view gradually narrowed. Apex of aedeagus slightly reflexed, briefly truncate.

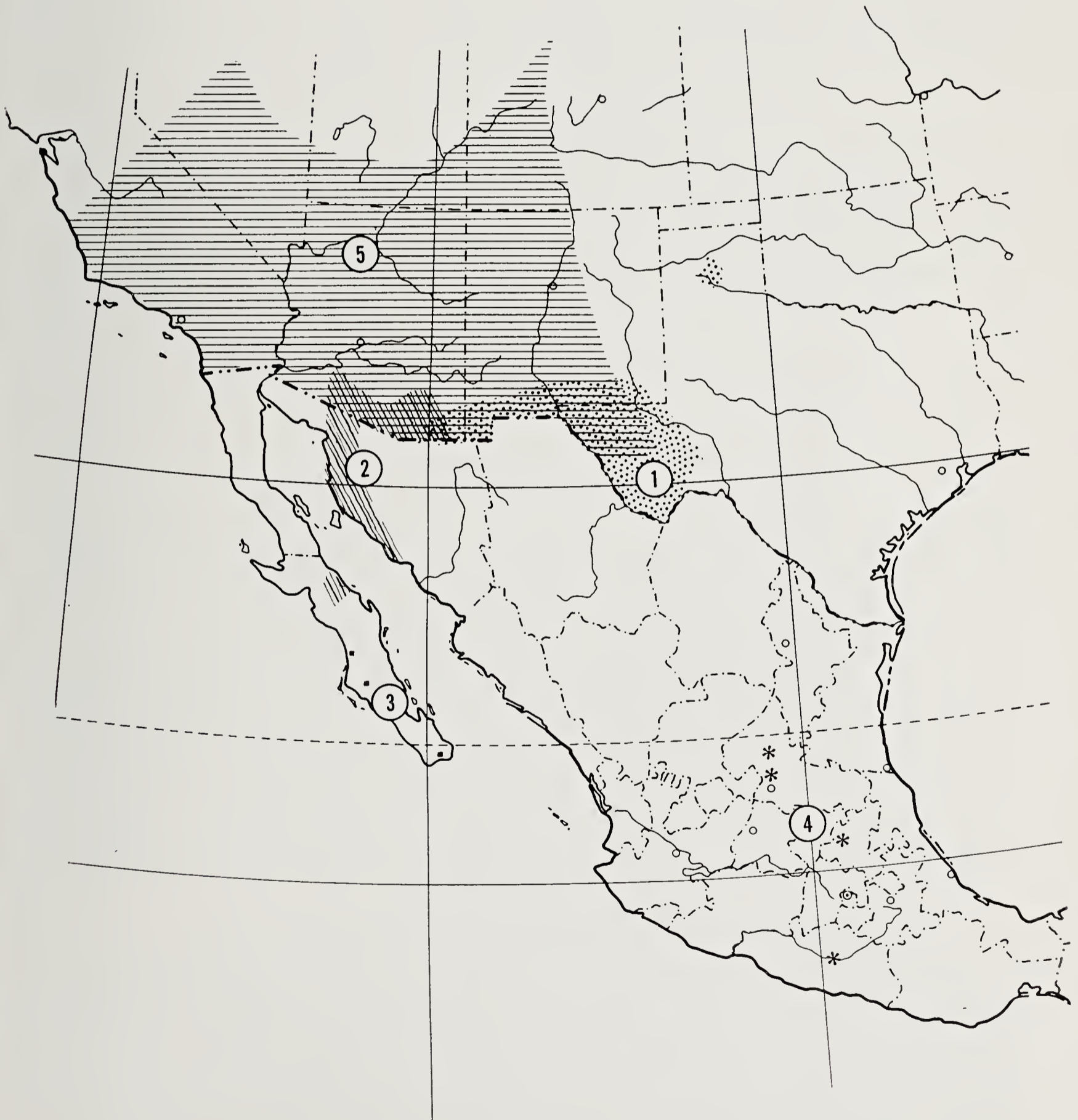
Allotype, female, length 3.5 mm., width 1.4 mm. More markings than in the type: a faint, dark, median vitta on frons, head and pronotum; sides of pronotum with a broader dark vitta; elytra conspicuously white behind apical V. Beak proportionately broader than in type, head more robust. Median line of beak ending in a weak transverse fovea. A row of four vibrissae each side of epistoma. Eye slightly larger; antennal club shorter than eye. Prothorax with a second shorter ocular vibrissa on each side. Fore and middle coxae separated by same distances as in type. Ventrite 5 with its apex broadly rounded, weakly margined.

Holotype, male, 19 mi. N. San Luis Potosi, S. L. P., Mexico, 1 September 1958, on mesquite, E. Mockford (Howden). Allotype, female, same data as type (Howden). Paratypes: 36 males, 40 females. GUERRERO: 1 male, 18 mi. N. Chilpancingo, 26 August 1958, H. F. Howden (CNC No 10547). HIDALGO: 2 males, 4 females, 20 mi. S. Zimapan, July 1954, D. G. Kissinger (Kissinger). SAN LUIS POTOSI: 18 males, 13 females, same data as type but some H. F. Howden, some on mesquite, 2 on greasewood (CNC, Howden); 15 males, 23 females, 46 mi. N. San Luis Potosi, 1 September 1958, H. F. Howden or E. Mockford, some on mesquite, 1 on yucca (CNC, Howden).

The male paratypes range in length from 2.8 to 3.8 mm., and in width from 1.1 to 1.3 mm.; female paratypes range in length from 3.4 to 4.1 mm., and in width from 1.3 to 1.8 mm. The color and markings usually range between that of the type and allotype; the elytral V is always indicated if not distinct. A few specimens are more brown than gray, and some have most of the ventral scales non-metallic bluish. In one atypical female from the type locality most of the scales of the elytra are without margins and are more convex than pustulate. Some specimens have as many as the first four rows of scales beyond the apical emargination modified: not margined, white, shiny, more convex, but still slightly granular. The apical emargination is quite variable, ranging from right-angled through ogival to arcuate. Thirty-two percent of the specimens have one vibrissa on each side, 32% have two vibrissae on each side, 15% have three vibrissae on each side and the remainder have a different number of vibrissae on each side, some of the variation obviously due to abrasion. The profile of the elytral declivity varies, regardless of sex, from straight with the apex of the

elytra directly beneath the summit of the declivity to concave with the apex extending distinctly beyond the summit. In three specimens the fore tibiae each have two small denticles. The very distinctive aedeagus is identical in all specimens examined.

Pandeleteinus submetallicus like *subcancer* has vestigial vibrissae and often non-dentate fore tibiae. However, this northernmost species remains the most distinctive of *Pandeleteinus* with its spherical head, cup-shaped prothorax, and immaculate metallic green or vaguely mottled tan coloring.



Map 1. Distribution of *Pandeleteinus*. 1, *elytroplanatus* Howden; 2, *lucidillus* Howden; 3, *magdalenensis* Howden; 4, *subcancer* n. sp.; 5, *submetallicus* (Schaeffer).

Pandeleteinus subcancer resembles *magdalenensis* in habitus, especially in the shape of the elytral declivity. In addition to the diagnostic characteristics, *magdalenensis* differs in having the sides of the elytra strongly constricted at the base of ventrite 3; the aedeagus cylindrical with the apex broadly rounded; strial punctures larger and more distant, hence only two-thirds as numerous; fore coxae more widely separated.

According to H. F. Howden the entire series from 19 mi. N. San Luis Potosi was collected between 4:30 and 5:30 P.M., all but two on mesquite. The series from 46 mi. N. of San Luis Potosi was collected after 6:30 P.M. all but one on mesquite.

The name *subcancer* refers to the geographical range of the species.

Pandeleteinus elytroplanatus Howden, 1959, pp. 378-382

The type locality of *elytroplanatus* is near Presidio, Texas, and the type series includes locations in Texas from the Big Bend north to Pecos as well as in southern Arizona and New Mexico. The range is extended considerably into the panhandle of Texas by a series of 16 specimens from Palo Duro Canyon State Park collected in June, 1959, by H. F. Howden and E. C. Becker. The specimens were taken by beating mesquite (*Prosopis glandulosa*).

Pandeleteinus lucidillus Howden, 1959, pp. 372-375

Pandeleteinus lucidillus was described from southeastern Arizona; recent collections from Arizona and Mexico almost connect the type locality with the single Baja California record. E. L. Sleeper took series near Ajo, near Gila Bend, and at Organ Pipe National Monument, Arizona, in May and at Baja San Francisquito, Sonora, in June. Six specimens were taken at Guaymas, Sonora, in June on *Neltuma* (*Prosopis*) *glandulosa* by Andrew Moldenke. The Baja California specimen is from Santa Rosalía, southwest of Guaymas across the Gulf of California. This specimen was reborrowed from the California Academy of Sciences and compared with the Sonora and Arizona specimens. It has a broader thorax than most specimens but there are two specimens (one male, one female) from Arizona with the thorax as broad. The relative width of the thorax cannot be correlated with sex or locality in the additional 69 specimens seen since the species was described. The thorax ranges from 1.07 to 1.27 times longer than wide.

Pandeleteinus magdalenensis Howden, 1959, pp. 375-378

The range of *Pandeleteinus magdalenensis* has been extended from the Magdalena Plain southward to the extreme tip of Baja California. E. L. Sleeper collected the species at San José del Cabo and a few other localities within the range; Sleeper says (in litt.) that the specimens were taken on "two species of *Acacia*, both species of *Cercidium*, and from a ubiquitous tree, Guamuchil, which is *Pithocelobium dulce*, and I have two specimens from near your type locality (Santo Domingo) from Honey Mesquite".

The San José del Cabo specimens exhibit the following variation. Males range in length from 2.8 to 3.2 mm., and in width from 1.0 to 1.3 mm.; females range in length from 3.0 to 3.6 mm., and in width from 1.3 to 1.5 mm. The brown color is sometimes much lighter, but with the white elytral fascia still distinguishable. The aedeagus is consistently blunt at the apex as illustrated for the type.

Pandeleteinus submetallicus (Schaeffer), 1908, p. 216

The range of the wide-spread *Pandeleteinus submetallicus* has not been extended but a series of specimens has been taken by the author in Wayne County, Utah, an area from which it was previously unrecorded. The species seems to be locally common and undoubtedly occurs throughout its seven state range wherever *Juniperus* and the proper conditions occur.

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New Publication

BRIGHT DONALD E., JR. 1969. *Biology and Taxonomy of Bar Beetle in the Genus Pseudohylesinus Swaine (Coleoptera: Scolytidae)*, pp. 46, figs 65. University of California Publications in Entomology, vol. 54. University of California Press, Berkeley, Cal. Price \$2.00.

In this monograph twelve species and subspecies of the genus *Pseudohylesinus* Swaine are recognized. The first part of the publication consists of a general description of the genus, its history, biology, ecology, and natural enemies. This is followed by a key to the adults. Then each species is redescribed along with a listing of its known distribution and host plants.

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